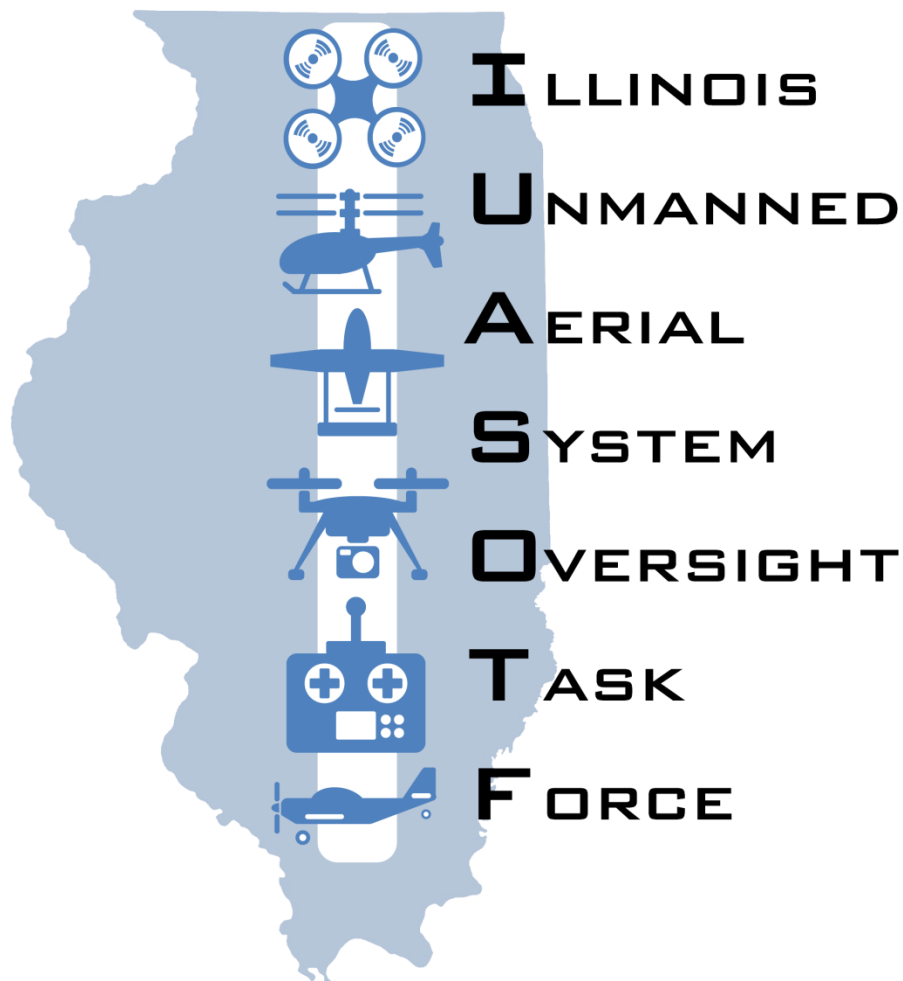


UAS Recommendations Report



Submitted to the Governor and General Assembly
in accordance with 20 ILCS 5065/
June 30, 2016



Task Force established by the Illinois
Unmanned Aerial System Oversight
Task Force Act (Public Act 099-0392;
20 ILCS 5065/)

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1. Background

The Illinois Unmanned Aerial System Oversight Task Force (IUASOTF; the “Task Force”) was established on August 18, 2015 via the *Illinois Unmanned Aerial System Oversight Task Force Act* (the “Act;” Public Act 99-392; 20 ILCS 5065/).¹ The Act, included as Appendix 6.1, provides language regarding the makeup of the Task Force’s membership, general areas of consideration, as well as the Task Force’s responsibilities.

2. Purpose & Objectives

The Task Force was created to “*provide oversight and input in creating comprehensive laws and rules for the operation and use of drone technology within this State, subject to federal oversight and regulation.*”² The Act directs the Task Force “*to study and make recommendations for the operation, usage, and regulation of Unmanned Aerial Systems.*”³ The Task Force’s specific duties are to “*prepare comprehensive recommendations for the safe and lawful operation of UAS*”⁴ and “*submit a report with recommendations to the Governor and General Assembly no later than July 1, 2016.*”⁵

3. Introduction

Unmanned Aircraft Systems (UAS), sometimes referred to as drones, unmanned aerial vehicles (UAV), radio-controlled (R/C) aircraft, or remotely piloted aircraft (RPA), have made significant technological and cost-reduction advances in recent years. UAS are currently being utilized for a wide variety of applications, both in the private and public sectors. The current UAS landscape is dynamic and rapidly changing. UAS have seen

¹ <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=3664&ChapterID=5> (June 20, 2016)

² 20 ILCS 5065/5

³ 20 ILCS 5065/15(a)

⁴ 20 ILCS 5065/15(e)

⁵ 20 ILCS 5065/15(g)

significant operational improvements in recent years. Future innovations and platform upgrades will undoubtedly improve their functionality and value.

Recreational/Hobby use of UAS has risen significantly, and the relatively low cost and added safety of utilizing UAS for aerial data collection makes them an attractive and cost-efficient option for a wide variety of Commercial and Public (governmental) applications. Their affordability, availability, and ease of use, however, also increase the potential for inappropriate or potentially unsafe operations by unauthorized, inexperienced, or unqualified individuals, organizations, companies, or agencies.

This Report represents the results of the Task Force's in-depth discussions on a variety of subjects ranging from public safety; ensuring the protection of privacy and property rights; the various types of UAS operations and how they may warrant different approaches to State oversight; and the importance of education and outreach as a tool to promote the safe and lawful operation of UAS.

The Task Force is comprised of 23 members, representing a diverse cross section of UAS stakeholders. Member information is presented by Task Force role in Appendix 6.2; member bios are included as Appendix 6.3. The Illinois Department of Transportation's (IDOT) Division of Aeronautics was statutorily designated to chair the Task Force⁶ and the Act instructed IDOT to provide administrative support to the Task Force.⁷

Over the course of approximately six (6) months, the Task Force convened seven (7) times to study and consider the operation, usage, and oversight of UAS in Illinois. Appendix 6.4 includes a schedule of the Task Force meeting dates, including major topics. Overall, consensus was reached on the majority of UAS-related discussion topics. A limited number of items experienced diverging viewpoints; those topics are noted in the report. The recommendations contained within this report are generally

⁶ 20 ILCS 5065/15(c)

⁷ 20 ILCS 5065/15(f)

grouped by category and not necessarily listed by order of importance. The recommendations are primarily technical in nature and have not been subjected to legal review or interpretation.

4. Recommendations

The Task Force respectfully requests the Governor and General Assembly carefully consider the following recommendations and concepts as UAS-related legislation and policy is crafted in Illinois:

4.1 General

Conceptual Approach to UAS Oversight

- State oversight of UAS should be approached in a safety-minded, pragmatic manner, consistent with applicable Federal Aviation Administration (FAA) rules and regulations.
- UAS operations should generally be permitted if they do not cause a safety hazard, do not infringe on the privacy or property rights of others, and if performed in accordance with applicable FAA rules and regulations.
- The State should develop programs, in collaboration with other agencies, organizations, and associations, to educate UAS operators, the public, policy makers, and other stakeholders about safe and lawful UAS operation, training and educational opportunities, privacy laws, and property rights.
- State oversight does not extend to US military or to Federal agencies operating UAS in support of official government business.

UAS Definition

- The Task Force recommends the State adopt a single definition for UAS within Illinois' statutes. The State definition should be as consistent with the Federal

definition of UAS as practicable, and the most appropriate location for the definition is within the *Illinois Aeronautics Act* (620 ILCS 5/).⁸

- Recommended definitions:
 - *Unmanned Aircraft*: A device used or intended to be used for flight in the air that is operated without the possibility of direct human intervention within or on the device.
 - *Unmanned Aircraft System (UAS)*: An unmanned aircraft and its associated elements (including communication links and the components that control the unmanned aircraft) that are required for the safe and efficient operation of the unmanned aircraft in the national airspace system.

Compliance with Federal Rules and Regulations

- Any State-level oversight, whether enacted legislatively or by policy, must complement and not conflict with FAA rules and regulations, including FAA's sole authority to regulate the National Airspace System (NAS) as stated in 49 U.S. Code § 40103 – *Sovereignty and Use of Airspace*.⁹
 - The FAA's Office of the Chief Counsel issued *State and Local Regulation of Unmanned Aircraft Systems Fact Sheet*,¹⁰ dated December 17, 2015, specifically addressing the role of State and Local UAS oversight. The Task Force's overall conceptual approach was fundamentally influenced by the guidance, and as such, the document is included in this Report as Appendix 6.5.
- At the time of this Report,¹¹ multiple Federal-level rules/regulations concerning UAS are being drafted or are in-process. Of particular interest are the following:
 - FAA's "Part 107" addition to Title 14 Code of Federal Regulations (14 CFR) concerning civil operations of small UAS in the NAS.

⁸ <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1803&ChapterID=48> (June 20, 2016)

⁹ <https://www.gpo.gov/fdsys/pkg/USCODE-2011-title49/html/USCODE-2011-title49-subtitleVII-partA-subpartI-chap401-sec40103.htm> (June 20, 2016)

¹⁰ http://www.faa.gov/uas/regulations_policies/media/UAS_Fact_Sheet_Final.pdf (June 20, 2016)

¹¹ As of June 23, 2016.

- FAA released the Final Rule for Part 107, *Operation and Certification of Small Unmanned Aircraft Systems*¹² on June 21, 2016. The Rule will be published in the Federal Register and will likely take effect in August 2016. The Rule is expected to primarily impact Commercial use of UAS.
- To supplement Part 107, the FAA issued guidance for conducting operations in the NAS in accordance with Part 107 via *Advisory Circular (AC) 107-2, Small Unmanned Aircraft Systems (sUAS)*.¹³
- Due to the recency of the Final Rule and associated AC's public release, the Task Force was not able to effectively evaluate all details contained within. Based on preliminary review, and due to the deference this report generally provides towards the FAA's established regulatory authority, the Task Force considers the recommendations contained within this Report to remain valid. Even so, the Task Force recommends the reader remain mindful that the recommendations presented below were developed prior to the release of the Final Rule and associated AC.
- FAA Reauthorization.
 - The current authorization to fund the FAA expires on July 15, 2016.
 - The US Senate passed S.2658 – *Federal Aviation Administration Reauthorization Act of 2016*,¹⁴ their version of the FAA Reauthorization, in April 2016. It remains unclear if the US House of Representatives will proceed with its own *H.R. 4441 – Aviation Innovation, Reform, and Reauthorization Act of 2016*¹⁵ or consider the Senate's version.
- There are also several legal cases, pending litigation, and National Transportation Safety Board (NTSB) decisions which may establish or impact future case-law. Examples include the following:

¹² http://www.faa.gov/uas/media/RIN_2120-AJ60_Clean_Signed.pdf (June 21, 2016)

¹³ http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_107-2.pdf (June 24, 2016)

¹⁴ <https://www.congress.gov/bill/114th-congress/senate-bill/2658> (June 20, 2016)

¹⁵ <https://www.congress.gov/bill/114th-congress/house-bill/4441/> (June 20, 2016)

- *Boggs v. Merideth* (United States District Court, Western District of Kentucky, Louisville Division; Case No. 3:16-cv-6-DJH)
- *Huerta v. Haughwout et al* (United States District Court, District of Connecticut; Case No. 3:16-cv-358-JAM)
- *Huerta v. Pirker* (NTSB Order No. EA-5730)¹⁶

Legislative Approach

- Flexibility to adapt State-level oversight to the changing UAS regulatory landscape at the Federal level is important.
- Consider changes to enabling legislation to create a broad oversight “framework” and delegate specific operational and safety rules to the appropriate State agency/department.
 - Utilize Joint Committee on Administrative Rules (JCAR) process to update the Illinois Administrative Code to provide specificity and adaptability to State-level oversight of UAS.
 - IDOT as primary agency for development of general UAS rules.
 - Encourage an IDOT-led interdepartmental UAS advisory committee, established through executive direction, for cross-agency rules coordination as appropriate.

Legislative Timing

- As Federal legislation and FAA rules are rapidly evolving, the General Assembly should remain mindful of the pending status of UAS regulation at the Federal level and exercise caution and restraint as it proceeds with State legislation and policy.
- In anticipation of pending Federal legislation and impending changes to FAA rules and regulations concerning UAS, legislation is recommended to provide the framework for consistent State oversight of UAS in Illinois. Legislation may include the following:

¹⁶ <http://www.nts.gov/legal/ali/Documents/5730.pdf> (June 23, 2016)

- Affirming IDOT's role and authority to develop rules pertaining to UAS within Title 92 of the Illinois Administrative Code¹⁷ (JCAR), as authorized in the *Illinois Aeronautics Act* (620 ILCS 5).¹⁸
- Direction to agencies to review their departmental policies and guidance, applicable statutes, and the Illinois Administrative Code (JCAR) to determine if changes should be proposed to address UAS in the context of their agency's particular authority or oversight.
- Additional State legislation should be dependent on pending Federal guidance, with consideration given to input received from the State agency or agencies with authority or oversight over such matters.

Unlawful Use

- Generally, statutes currently exist that address many of the concerns surrounding unlawful use of UAS. Specific concerns will be discussed later in this Report, but generally the Task Force concluded that UAS-specific legislation, while politically popular, is likely unnecessary at this time for most circumstances.
 - The Task Force discussed this concept at length, and recommends a comprehensive approach to statute violations incurred via UAS. Rather than creating numerous new laws specifically related to acts committed via UAS, or amending numerous existing statutes to specify UAS, consideration should be given to a global "extension of oneself" clause that serves to legally link the operator with the unmanned aircraft from a statutory perspective. Statute violations or damages incurred by the unmanned aircraft should be legally considered as if the activity was performed in-person by the operator.

Penalties

- Violation of an existing statute via UAS should generally carry the same civil and/or criminal penalties as violation of the same statute by other methods. The

¹⁷ <http://www.ilga.gov/JCAR/AdminCode/092/092parts.html> (June 20, 2016)

¹⁸ <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1803&ChapterID=48> (June 20, 2016)

actions of the operator should be the primary concern, not necessarily the instrument which the operator used to achieve the action.

- For example, delivering contraband at a correctional facility is currently illegal, as detailed in *Bringing Contraband into a Penal Institution; Possessing Contraband in a Penal Institution* (720 ILCS 5/31A-1.1).¹⁹ Specifying the illegality of delivering contraband via UAS is unnecessary. Also the Task Force did not agree with UAS-related violations statutorily carrying specific or harsher penalty as compared to violation by other methods (For example, throwing the same contraband over the wall, or smuggling in via other means.) Similarly, photographing or recording persons in certain locations with a reasonable expectation of privacy without their consent is currently illegal under *Unauthorized Video Recording and Live Video Transmission* (720 ILCS 5/26-4).²⁰ There need not be a distinction whether the photos or video were obtained by UAS, handheld camera, video camera, etc.
- *Note:* Some Task Force Members thought modifying statutes to specifically identify harsher penalties for statute violations via UAS vs statute violation by other methods could potentially further discourage illegal activity and should be considered.

4.2 Preemption

The Task Force discussed at length the concept of preemption and how it applies to State-level oversight of UAS. Preemption, or the law of a higher level of government superseding that of a lower level of government, is an important overarching conceptual factor in the Task Force's recommendations. The Task Force fully acknowledged Federal preemption, expressed or implied, and the need for any State oversight to conform to Federal rules and regulations. The Task Force also discussed the value of

¹⁹<http://www.ilga.gov/legislation/ilcs/ilcs4.asp?DocName=072000050HArt%2E+31A&ActID=1876&ChapterID=53&SeqStart=8120000&SeqEnd=81600000> (June 20, 2016)

²⁰<http://www.ilga.gov/legislation/ilcs/ilcs4.asp?DocName=072000050HArt%2E+26&ActID=1876&ChapterID=53&SeqStart=7360000&SeqEnd=74600000> (June 20, 2016)

State-level preemption as a means to supplement factors not addressed Federally and to ensure regulatory consistency throughout the State.

- Federal Preemption: At the time of this report, the US Senate had passed FAA reauthorization legislation, including preemption language contained within Section 2142(a) specifying the FAA's role in UAS oversight. If the preemption language in *S.2658 – Federal Aviation Administration Reauthorization Act of 2016* (as passed) is included in the final Bill, it will have widespread impact on the type and scope of UAS oversight permissible at the State and Local levels.
 - Any proposed State-level oversight should be carefully examined for compliance and compatibility with Federal laws, rules, and regulations.
 - The General Assembly should remain mindful of the potential for strong Federal preemption regarding UAS, whether said preemption is explicitly contained in the final FAA Reauthorization Bill, explicitly within current and future FAA rules and regulations, or implicitly derived from existing or future case-law.
- State Preemption: The General Assembly is strongly encouraged to enact State-level preemption regarding UAS oversight in Illinois.
 - State-level preemption should complement existing and future Federal preemption.
 - The Task Force agreed that a patchwork of Local ordinances is not desirable and would undoubtedly lead to confusion and an increased burden on UAS operators and the UAS industry. This is of particular concern and impact to Commercial and Public operators that routinely operate UAS in multiple locations throughout the State and across municipal boundaries.
 - The Task Force noted that many Local ordinances, while well-intentioned, are written by those unfamiliar with the nuances and complexities of FAA airspace and operational regulations. Unless drafted with extreme care, there exists a reasonably high likelihood many Local ordinances may, in fact, include language that is in conflict or in violation of Federal law.

- Local ordinances could impede commerce and unjustifiably restrict legitimate uses by companies and/or individuals desiring to use UAS in Illinois. Inconsistent or conflicting Local ordinances could result in negative economic impact to the State.
 - For example, an electrical utility company may deploy UAS to assess power lines, substations, or other infrastructure for system safety and reliability, potentially crossing through several municipalities. Or, an insurance company may use a UAS to evaluate storm damage at several client locations spanning across municipal boundaries. Subjecting operators to varying or potentially conflicting localized restrictions imposed by each municipality would inhibit these valid uses.
- State-level preemption was preferred by the majority of the Task Force. If enacted, State-level preemption should include clarification that previously-enacted Local ordinances are nullified. However, if complete State-level preemption is not implemented and Local restrictions are permitted, consideration should be given to partial preemption for most UAS-related oversight. Any restrictions Local municipalities are permitted to enact should be specifically itemized specific through legislation or the Illinois Administrative Code (JCAR).
 - Note: Some Task Force members expressed concern that State preemption may be viewed as overly restrictive to Local municipalities and that limiting Local authority over UAS operations in their communities could be difficult to achieve from a political perspective.

4.3 Commercial Use

Operation

- The Task Force believes Commercial use of UAS has the potential to become a considerable economic driver in Illinois. The Commercial use of UAS is currently heavily regulated at the Federal level. At this time Commercial use of UAS is only

authorized by the issuance of a Section 333 exemption or a Special Airworthiness Certification from the FAA. The FAA's new Part 107 may impact the approval process, certification requirements, and/or types of permissible Commercial operations.

- Commercial use of UAS, as authorized by the FAA, should generally not be subjected to additional operating restrictions, provided operations are performed safely and in accordance with the FAA-authorized activity.
- Any additional restrictions imposed on FAA-authorized Commercial UAS operation at the State level should be well thought out, compatible with FAA rules and regulations, and have demonstrable benefit to the State.
- Commercial UAS operators should secure permission from the owners of any private property used for takeoff, landing, or as the location of the person(s) operating the system.²¹
 - Some method to allow for takeoff/landing/operation from private property when landowner permission cannot be reasonably secured should be considered for Commercial use in support of emergencies, disaster response, or other similar situations. Possible approaches include securing permission from on-scene law enforcement, application and issuance of a limited-time waiver by an appropriate public safety official, etc.

Registration

- The FAA requires Federal-level registration for UAS that meet certain weight and/or operational categories.
- The Task force was generally neutral regarding registration of entities authorized for Commercial use of UAS. The Task Force recognized some data collection and information dissemination benefits of requiring State registration of entities authorized to conduct Commercial UAS operations, provided the registration of the FAA commercial-use authorization was not unduly burdensome or costly.

²¹ Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

- If State registration of Commercial use is implemented, registration should be similar to existing IDOT Pilot & Aircraft registration in philosophy (i.e. registration of the entity's FAA certificate/authorization for Commercial UAS use, not State approval or State certification).
- Registration via an online portal is recommended.
- Registration fees should be minimal or free.
- The operating entity issued the FAA Commercial use authorization should be the registrant. Requiring registration of all Individual operators or individual UAS should not be mandatory.
 - Registration should include pertinent contact information, the number of UAS in operation, and the number of authorized operators. These figures should be updated annually at minimum.
 - Registration should be limited to UAS that are operational and being used in support of their intended Commercial application at the time of reporting. Reporting of pre-production UAS in research & development phases should not be required.

Insurance

- The Task Force agreed that liability for bodily injury or property damage caused by UAS typically lies with the operator/company whether inflicted accidentally or intentionally. Commercial UAS operators should be encouraged to obtain insurance, but the Task Force did not reach a consensus regarding making insurance mandatory at this time.
 - The Task Force agreed that most Commercial UAS operators would voluntarily determine the benefit of maintaining insurance. Some standard business liability policies may cover UAS; commercial operators should be encouraged to research their existing insurance coverage. Also, as a point of reference, commercial manned aircraft in Illinois are not required to carry insurance; the notion of imposing a stricter requirement for Commercial UAS was not well received.

Professional Services

- UAS utilized in support of a professional service that typically requires participation, direct supervision, or a defined level of oversight from an individual that possesses a license, certification, or other form of accreditation by an agency or professional organization should be operated in a manner consistent with the general practices and requirements of that profession. While the UAS may be operated by an individual other than the accountable professional, the Commercial operation should be performed under the supervision of the accountable professional as appropriate, consistent with current professional standards.

4.4 Public Use (Non-Law Enforcement)

Operation

The Task Force believes Public (governmental) use of UAS will grow substantially in the near future. Public use of UAS is currently heavily regulated at the Federal level; Public agencies may operate UAS under a Section 333 exemption, by securing a Special Airworthiness Certificate, or via a Public Certificate of Waiver or Authorization (COA). The FAA's new Part 107 may impact the approval process, certification requirements, and/or types of permissible operations.

- Public UAS operations should be held to a high standard of transparency and operational legitimacy.
 - UAS have the potential to provide public agencies with valuable and useful information.
 - Public agencies should maintain flight records and other documents in accordance with FAA rules and regulations.
 - Incidentally collected data not germane to the official purpose of the mission should not be retained or utilized for purposes beyond the scope of the mission unless otherwise required by law.
 - Storage of personally-identifying information collected via UAS should be avoided unless that information is relevant to the mission. Files containing

personally-identifying data should be securely stored in such a manner that limits access or use by unauthorized persons.

- The Task Force agreed that liability for bodily injury or property damage caused by UAS typically lies with the operator/agency whether inflicted accidentally or intentionally.
- Public agencies utilizing UAS in support of non-law enforcement regulatory investigation, enforcement, and/or litigation should apply existing best practices regarding notification to the property owner and access/entry onto the property, as applicable.
 - Should agency personnel currently require permission or notification to inspect site conditions in-person, the same standard of notification/permission should apply when conducting inspections via UAS. UAS should not be used as a way to circumvent appropriate notification/permission protocol if coordination with the landowner is currently required or is standard procedure.
- Public UAS operators should secure permission from the owners, if feasible, of any private property used for takeoff, landing, or as the location of the person(s) operating the system.²²
 - Some method to allow for takeoff/landing/operation from private property when landowner permission cannot be reasonably secured should be considered for Public use in support of emergencies, disaster response, or other similar situations. Possible approaches include securing permission from on-scene law enforcement, application and issuance of a limited-time waiver by an appropriate public safety official, etc.
- Any additional restrictions imposed on FAA-authorized Public UAS operators at the State level should be well thought out, compatible with FAA rules and regulations, and have clear benefit to the State.
- Public UAS operators should not be restricted from coordinating with appropriate Federal and State agencies to seek authorization allowing UAS operations outside of normal parameters in times of disaster or emergency.

²² Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

Registration

- The FAA requires Federal-level registration for UAS that meet certain weight and/or operational categories.
- The Task Force recognized the data collection and information dissemination benefits of requiring State registration of Public entities authorized to perform UAS operations.
- Registration should be similar to existing IDOT Pilot & Aircraft registration in philosophy (i.e. registration of the entity's FAA certificate/authorization for Public UAS use, not State approval or State certification).
 - Registration via an online portal is recommended.
 - There should be no registration fee.
 - The operating entity issued the FAA authorization should be the registrant. Requiring registration of all Individual operators or UAS should not be mandatory.
 - Registration should include pertinent contact information, the number of UAS in operation, and the number of authorized operators. These figures should be updated annually at minimum.
 - The list of public agencies operating UAS should be made available to the public. Agencies with legitimate security concerns may be exempted from public listing upon legal review.

UAS Operation by State Agencies (Non-Law Enforcement)

- UAS have the potential of providing high operational value to the State with a relatively small financial investment. State agencies should be encouraged to research ways UAS technology could be used in support of their respective missions. State agencies should carefully examine and research the type of data needs they have as well as accuracy requirements to determine if UAS are appropriate for a given purpose.
- Rules and regulations concerning the legal and appropriate use of UAS are complex and constantly evolving. To safeguard against unintentional violations of FAA airspace or aviation regulations, the Task Force recommends interagency

coordination, led by IDOT, to provide consistent State-wide training and operational guidance across State agencies that may intend to operate UAS.

- IDOT's ongoing working partnership with the FAA, existing manned aircraft flight operation, and overall role in the oversight of aeronautics in Illinois makes it the preferred agency to coordinate and provide interagency support and guidance. This could include distributing regulatory updates, developing and administering operator training programs, assist in developing standard operating procedures, (SOP), and offering operational "best practices" guidance to other agencies.
- State agencies which may not intend to pursue direct UAS operations should still research whether aerial data could provide a benefit to their agency. IDOT currently serves as an aerial resource for several State agencies, providing aerial products, data, and services. IDOT should be encouraged to expand its existing cross-agency support role to include collection and delivery of UAS-sourced aerial data.
 - IDOT collection of certain UAS-sourced aerial data may provide some benefits during the initial implementation stages of this technology:
 - Consolidated Missions: Multiple similar/overlapping flight requests can be grouped by geographic location and flown concurrently.
 - Data Clearinghouse: Develop an interagency digital clearinghouse to share data sets across agencies, and the public as appropriate.
 - Uniformity & Consistency: Hardware platforms, data accuracy and control, training techniques, crew requirements, operational standardization, best practices, etc.

4.5 Public Use (Law Enforcement)

- The Task Force recognized the potential for UAS to become an indispensable law enforcement tool in a variety of situations. Law Enforcement Agencies should remain mindful of the public's constitutional rights and strike a careful balance between operational capability and appropriate limitations/safeguards.

- Current Law Enforcement use of UAS is primarily governed by the *Freedom From Drone Surveillance Act* (725 ILCS 167/).²³
 - Generally, the Task Force concluded the *Freedom from Drone Surveillance Act* provided an appropriate level of oversight and operational guidance to Law Enforcement Agencies.
 - The *Freedom from Drone Surveillance Act* should be reviewed to ensure it provides sufficient flexibility for use by Law Enforcement Agencies in cases of immediate danger to life, in search and rescue situations, and for training exercises.
- Use of UAS by Law Enforcement Agencies should be limited to current statutes, laws, ordinances, and legal procedures regarding surveillance, searches, warrants, and entry.
- At this time, the Task Force generally agreed that UAS should not be used by Law Enforcement Agencies to substitute or supplement officer patrols of an area. UAS should not be dispatched to regularly patrol over assigned zones or routes over either public or private property.
- The Task Force agreed that liability for bodily injury or property damage caused by UAS typically lies with the operator/agency whether inflicted accidentally or intentionally.
- The Task Force did note that there could be reasonable justification for expanded use by Law Enforcement Agencies beyond what is authorized in the *Freedom from Drone Surveillance Act*. Any increased capability should be narrowly considered and sufficiently detailed to address a specific set of operational circumstances.
 - Hypothetical examples of a potential expansion could include allowing State Law Enforcement Agencies to utilize UAS over State-owned property to assist in the identification of specific illegal activities occurring on State property (i.e. grow-fields, poachers, etc.). A second hypothetical example could include permitting Law Enforcement Agencies to deliver certain less-than-lethal (LTL) device technologies via UAS. UAS have the

²³ <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=3520&ChapterID=54> (June 20, 2016)

potential to precisely deliver LTL devices to locations that have been traditionally difficult or impossible to reach without putting officers in harm's way. Law Enforcement use of UAS for non-surveillance purposes is becoming more frequent in the US. Some states have enacted or are considering State-level legislation for increased use by Law Enforcement Agencies, including the following examples:

- North Dakota Century Code (NDCC) § 29-29.4-05²⁴
- Connecticut: HB5274²⁵ / SB148²⁶
- The Task Force encourages the implementation of a program to develop and distribute operational guidance to Law Enforcement Agencies that own or are considering purchasing UAS. The Illinois State Police (ISP), in consultation with the Illinois Law Enforcement Training and Standards Board (ILETSB), should develop a program with the goal of encouraging safe and uniform Law Enforcement Agency use of UAS. This program could also serve as a mechanism to distribute applicable FAA and State-level guidance to Law Enforcement Agencies that operate UAS throughout Illinois. Items produced by the program could include sample training curriculums, standard operating procedures (SOPs) for Local Law Enforcement agencies to customize to fit their particular operational needs, "best practices" brochures, collaborative meetings/training sessions, etc.
- Law Enforcement Agencies that operate UAS should not be restricted from coordinating with appropriate Federal and State agencies to seek authorization permitting operations outside of normal parameters in times of disaster or emergency.

4.6 Private Use (Recreational/Hobby)

- Recreational/Hobby use of UAS is not new. Model aircraft have been flying safely within US airspace for over 100 years. Traditionally, hobbyists would devote

²⁴ <http://www.legis.nd.gov/cencode/t29c29-4.pdf>

²⁵ https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill&bill_num=HB05274&which_year=2016
(June 24, 2016)

²⁶ https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill&bill_num=SB00148&which_year=2016
(June 24, 2016)

significant time and effort towards construction and training on their model aircraft, often gathering at a common/dedicated flying location. New advances in technology have revolutionized the UAS industry and the Recreational/Hobby market has experienced unprecedented growth in recent years. The influx of new UAS technology (most notably ready-to-fly quadcopters), coupled with their increased capabilities, ease of use, and low cost, has been a major factor in the FAA's recent attention towards UAS safety and oversight.

Operation

- To be considered a Recreational/Hobby use, Private UAS operators must, among other conditions, fly in accordance with a community-based set of safety guidelines as outlined in Section 336, *Special Rules for Model Aircraft*, of the *FAA Modernization and Reform Act of 2012* (US Public Law 112-95).²⁷ Future FAA Reauthorization Acts and other FAA rules and regulations may also contain additional provisions and guidance pertaining to Recreational/Hobby use.
 - Information should be made publicly available regarding Recreational/Hobby clubs and organizations, such as the Academy of Model Aeronautics (AMA), the International Miniature Aerobatic Club (IMAC), the International Radio Controlled Helicopter Association (IRCHA), the National Society of Radio Controlled Aerobatics (NSRCA), the Drone Racing League (DRL), the US Drone Racing Association (USDRA), etc. so individuals can look into forming or joining a local chapter. These clubs and organizations typically have member codes of conduct, safety rules that must be abided by, and some offer other member benefits such as insurance. They often act in a self-policing capacity to reinforce the message of safe and lawful use of UAS for Recreational/Hobby purposes.
- Law Enforcement Agencies responding to incidents should exercise appropriate discretion when investigating the incident whether actions resulting in

²⁷ <https://www.gpo.gov/fdsys/pkg/PLAW-112publ95/html/PLAW-112publ95.htm> (June 20, 2016)

injury/damages rise to the level of criminal wrongdoing or if any injury/damages were caused accidentally and can be addressed civilly.

- Recreational/Hobby operators should secure permission from the owners of any private property used for takeoff, landing, or as the location of the person(s) operating the system.²⁸

Registration

- The FAA requires Federal-level registration for UAS that meet certain weight and/or operational categories.
- The Task Force was generally against State registration of Recreational/Hobby UAS operators. The cost of implementing and administering a registration program would almost certainly outweigh the overall financial benefit to the State, and mandatory registration would place an additional burden on consumers. The majority of private-use UAS are consumer-grade units purchased by consumers for personal enjoyment, and the registration rate would likely be low. Therefore, the registration database would not serve as an effective or accurate representation of the number of type of Recreational/Hobby UAS owners in Illinois.

Insurance

- A requirement for Recreational/Hobby UAS operators to hold insurance is not recommended.
 - The Task Force agreed that liability for bodily injury or property damages caused by UAS typically lies with the operator whether inflicted accidentally or intentionally. Most UAS used for Recreational/Hobby purposes are relatively low-cost, consumer-grade units. However, the potential for damage or injury exists, and therefore insurance should be encouraged, but not mandated.
 - Insurance is generally not required for other types of sporting equipment/electronics or to engage in other recreational activities. Also, as

²⁸ Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

a point of reference, manned aircraft in Illinois are not required to carry insurance and the notion of imposing a stricter requirement for Recreational/Hobby use of UAS was not well received.

4.7 Landowner Rights

Private Property

- Existing trespassing laws should be generally sufficient to address the majority of UAS-related concerns.
- Private property owners should have the right to deny their property be used for takeoff, landing, or as the location of the person(s) operating the system.²⁹
- Landowners should generally be permitted to operate UAS from their property, subject to applicable FAA rules and regulations.
- Any State or Local restrictions placed on UAS operations from private property must be in full conformity with FAA rules and regulations.³⁰
- UAS operators should seek landowner approval to retrieve UAS that may accidentally land or crash onto private property. Landowners should not be held liable for damages to the UAS or injury to the individuals retrieving their UAS, unless the damages or injury arose from willful and wanton misconduct by the landowner.
- Landowners may seek damages and/or press criminal charges against UAS operators that cause bodily injury or property damage. Ability to pursue criminal charges and/or file lawsuits are likely already captured under existing law.

Public Property

- Any State or Local restrictions placed on takeoff, landing, or the location of the person(s) operating the system from public property must be in full conformity with FAA rules and regulations.³¹ IDOT could serve as an advisory resource to public entities considering such restrictions.

²⁹ Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

³⁰ Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

³¹ Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

- UAS operators should not generally have to seek prior permission to use public property for takeoff, land, or as the location of the person(s) operating the system. The default assumption regarding public property should be that the activity is permitted unless explicitly stated otherwise, provided the activity is performed in accordance with applicable FAA guidance and in a manner that is not careless or reckless, or causing a public safety hazard. Potential exceptions are discussed below.
- Communities should not be permitted to issue “blanket” prohibitions on UAS takeoff, landing, or the location of the person(s) operating the system in all public places. UAS should commonly be allowed at publicly-owned open areas, such as public parks and other similar recreational facilities, unless there exists a clearly established rationale for their prohibition based on demonstrable safety concerns.
- The Task Force does acknowledge a common-sense requisite to allow governments/municipalities to impose reasonable restrictions on takeoff, landing, or the location of the person(s) operating the system at certain specific public places, including in the immediate vicinity of certain government/municipal buildings, within densely populated areas, or from areas within State parks or other similar wildlife preserves/protected spaces where UAS may disturb the natural setting.
- Should a government/municipality desire to *permanently* restrict takeoff, landing, or the location of the person(s) operating the system at a public place, there should be a public process developed to allow sufficient public input and encourage an informed decision making process by Local policy makers. At minimum, the restrictions should be discussed at an appropriate public meeting (board meeting, city/town council meeting, public hearing, etc.), the proponent should publicly present justification for the restriction, and there should be opportunity for public comment. A process to appeal a previous decision or petition for changes is also recommended.³²

³² Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

- Should a government/municipality desire to *temporarily* restrict takeoff, landing, or the location of the person(s) operating the system from within a public park or other similar open space to allow for a concert, public gathering, or other similar event, notice of the upcoming temporary restriction should be posted sufficiently in advance, both at the event location and at a main office location.³³
- Any public location from which takeoff, landing, or the location of the person(s) operating the system are restricted for any duration should display clearly-marked signage indicating the activity is not permitted from that area. Individual UAS operators should not be expected to know each and every location from which the takeoff, landing, or the location of the person(s) operating the system is restricted.³⁴
 - Such signage should accurately represent the localized land-use restrictions in place and should not imply all UAS flight activity is necessarily prohibited. It is important for governments/municipalities to understand that presently, the FAA is the only agency that may establish “No Fly Zones” or impose Temporary Flight Restrictions (TFR). “No Drones Allowed” or “No Drone Zone” signs can be misinterpreted or may falsely imply flight restrictions are in place. Appendix 6.6 contains the Task Force’s example of appropriately worded signage. The Task Force recommends development of standardized suggested signage for use by municipalities or other entities.

4.8 Privacy Rights

- Existing laws and ordinances regarding voyeurism, harassment, stalking, disorderly conduct, public nuisance, reckless endangerment, recording of individuals in locations where there exists a reasonable expectation of privacy, etc. should generally be sufficient to address the majority of UAS-related concerns.

³³ Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

³⁴ Recommendation applies to land-use and not necessarily flight location, as airspace regulation is a function of the FAA.

- Introducing a global “extension of oneself” language to the criminal code, as discussed in Section 4.1, could provide a comprehensive approach to addressing concerns related to invasion of privacy.
- Existing laws should be reviewed to ensure that violation of existing statutes arising from the use of UAS can be effectively applied to UAS operators. Minor revisions to certain laws may be necessary for clarification purposes, but overall, the Task Force determined existing laws should be applied when possible and statutes specifically targeting UAS are not broadly necessary or prudent.
 - This concept is consistent with Section 2142(b) of S.2658 – *Federal Aviation Administration Reauthorization Act of 2016 (as passed)*.³⁵
- Parties may seek damages and/or press criminal charges against UAS operators that cause bodily injury or property damage. Ability to pursue criminal charges and/or file lawsuits are likely already captured under existing law.

4.9 Safe Operations

Education / Outreach

- The Task Force determined an important driver towards successfully attaining a high degree of safe and lawful UAS operations in Illinois will be a commitment to UAS education and outreach.
- There exist many misconceptions and much misinformation about UAS, and the State should actively promote and make available accurate, consistent, and up-to-date information regarding the safe and lawful use of UAS in Illinois. The Task Force recommends proactively taking steps to educate stakeholders regarding the safe and lawful operation of UAS in Illinois. This includes providing direction to IDOT, through executive direction, to lead a multi-faceted education and outreach campaign regarding the safe and lawful operation of UAS in Illinois.
 - The Task Force identified several groups of stakeholders that should be the focus of a comprehensive education/outreach campaign:
 - UAS Operators: Commercial, Public (Non-Law Enforcement), Law Enforcement, and Recreational/Hobby; Local municipalities and

³⁵ <https://www.congress.gov/bill/114th-congress/senate-bill/2658> (June 20, 2016)

policy makers; Local police departments, airports/pilots/aviation professionals; and of course the general public.

- Each group will require an approach specifically tailored to effectively address their respective concerns and particular needs.
- The education/outreach campaign should explore a variety of methods, depending on the intended audience. These may include in-person meetings and seminars, social media, traditional media outlets, documents (flyers, pamphlets, “best-practices” white papers), etc. IDOT currently sponsors and participates in several aviation seminars and training activities throughout the year, including the development of printed and electronic materials, and is therefore the agency most appropriately equipped to lead this effort.
- Throughout the development and implementation of the educational/outreach campaign, IDOT should collaborate and develop partnerships with the FAA, State and Local agencies, UAS special interest groups, and the UAS industry in order to ensure consistent and current information is developed and distributed.

Educational Institutions & Programs

- The Task Force discussed the current trajectory of the UAS industry and the potential for UAS to become both subject matter as well as educational tool.
- UAS can play a positive role in science, technology, engineering, and mathematics (STEM) educational opportunities. Exposing today’s youth to UAS and emphasizing their safe and lawful operation may help inspire the next generation of responsible aviation enthusiasts.
- With an eye towards future innovation, the Task Force recommends educational institutions are encouraged to explore the potential development of UAS-related degree programs, classes, or coursework, particularly at the high school and college/university levels.

- Recent FAA guidance contained within *Educational Use of Unmanned Aircraft Systems (UAS)*,³⁶ an FAA memo dated May 4, 2016, clarified the FAA's position on the educational use of UAS for “*hobby or recreational purposes at educational institutions and community-sponsored events,*” as well as “*student use of unmanned aircraft in furtherance of receiving instruction at accredited educational institutions.*”
- Schools should also be encouraged to explore ways UAS might be utilized as a tool to aid research or in support of other coursework.
- Even if UAS are not used in the classroom, student clubs/organizations may provide a constructive school-sanctioned extracurricular opportunity.

State Recommended Standards for Dedicated UAS Landing Facilities

- The Task Force recommends IDOT be tasked with developing a set of recommended general safety standards and guidance for entities intending to facilitate sustained UAS operations at a specific location.
 - Examples could include a commercial package delivery distribution center where numerous UAS operations take place daily, or a Local municipality interested in establishing a dedicated drone-friendly area within a public park.
 - General standards are not applicable or recommended for occasional-use locations or in-the-field.
- Due to the wide variety of UAS types, sizes, and their varying operational profiles, standards would be dependent on the capabilities of UAS operating from the location.
- The Task Force recommends any standards for dedicated UAS landing facilities be advisory only and that dedicated UAS landing facilities should not be subjected to State inspection or certification. Proponents may voluntarily choose to adopt or adapt the general standards for their facility, but should not be compelled to adhere to State standards.

³⁶ https://www.faa.gov/uas/regulations_policies/media/Interpretation-Educational-Use-of-UAS.pdf (June 20, 2016)

- General standards could serve as a baseline to assist proponents, particularly Commercial operators, as they determine dimensional layouts and safety margins appropriate for their location and operation.
 - IDOT could advise proponents and serve as a technical resource as they develop facility-specific details, as is common today for other landing facility types.
 - The development of dedicated UAS landing facility standards is a natural extension of the standards developed by IDOT and included in Title 92, Part 14 of the Illinois Administrative Code³⁷ (JCAR) for other landing facility types, including airports, ultralight/STOL airports, Restricted Landing Areas (RLAs), and heliports.

Guidance for Local Law Enforcement Agencies

- The Task Force discussed at length the fact that Local Law Enforcement Agencies are often the first call made by citizens to complain about unwelcome UAS activity.
- Historically, most Local Law Enforcement Agencies have rarely been exposed to aviation-related incidents. The Task Force understands and acknowledges the difficult position this places Local Law Enforcement Agencies in, and strongly recommends the development and distribution of guidance to Local Law Enforcement Agencies to equip them with the necessary knowledge and protocols to follow when responding to UAS complaints.
 - The Task Force recognizes the challenges Local Law Enforcement Agencies face when attempting to balance multiple sets of laws and regulations, in real-time, and while under stress from concerned individuals.
 - Local Law Enforcement Agencies are not typically expected to enforce, nor have they been trained on, the complex set of Federal Aviation Regulations (FARs). Federal jurisdiction over certain investigatory and

³⁷ <http://www.ilga.gov/JCAR/AdminCode/092/09200014sections.html> (June 20, 2016)

enforcement matters complicates the task of effectively and appropriately managing a UAS-related incident.

- The FAA has developed a “Law Enforcement Resources” website³⁸ that contains certain Federal-level guidance and resources for Local Law Enforcement Agencies.
- The Task Force has identified value in supplementing available Federal-level resources to include applicable State-level information. A State-level role in actively making Local Law Enforcement Agencies aware of available Federal and State guidance is beneficial towards providing consistent and appropriate application of laws and regulations throughout Illinois. ISP should collaborate with ILETSB and IDOT to develop and distribute these materials.
 - This may include a Law Enforcement “Tool Kit” consisting of applicable State statutes, relevant FAA rules and regulations, FAA and State points-of-contact, bulletins/flyers, quick-reference guides, incident reporting requirements, FAQs, etc.
- Local Law Enforcement Agencies must always place the safety of people and property first, and take appropriate action to mitigate any immediate danger.

Local Municipality & Community Support

- The Task Force recommends encouragement be given to Local municipalities to develop community-based programs that encourage the safe and lawful use of UAS.
 - Establish “Drone Zones” – Rather than seeking ways to prohibit UAS use, municipalities may wish to consider establishing “Drone Zones” in appropriately located and marked public spaces. These areas could serve as a magnet site for Recreational/Hobby UAS operators, providing known locations where UAS use is encouraged and for community-based instruction and mentoring. Appendix 6.7 contains the Task Force’s example of a potential “Drone Zone” sign that both promotes safe and responsible UAS use at a particular location, and alerts the public of the

³⁸ https://www.faa.gov/uas/law_enforcement/ (June 20, 2016)

increased potential for UAS in that area. The Task Force recommends development of standardized suggested signage for use by municipalities or other entities.

- Municipalities, park districts or other community groups may form or facilitate a local “Drone Club” or similar group. Municipalities can also have information readily available to the public regarding existing model aircraft clubs in the area and/or established organizations so individuals can look into forming or joining a local chapter. These clubs and organizations typically have member codes of conduct and safety rules, acting as a community partner by reinforcing the message of safe and lawful use of UAS for Recreational/Hobby purposes.

Agricultural Use

- UAS are utilized in several ways within the agricultural industry, and as their capabilities increase, more uses in support of agribusiness will likely materialize.
- Aerial Application / Precision Application: Similar to aerial application with manned aircraft, entities utilizing UAS for the purposes of aerial application should have appropriate training/testing/certification/licensing as required and administered by the Illinois Department of Agriculture.
 - UAS applicators should be subject to the same, or similar, Illinois Department of Agriculture (IDOA), FAA, and Environmental Protection Agency (Illinois and Federal) regulations.
 - IDOA should evaluate its current training/testing/certification/licensing programs for aerial applicators to ensure UAS are appropriately addressed and included.
- Field Surveys: UAS used to perform crop monitoring, evaluate soil condition, assist in Normalized Difference Vegetation Index (NDVI) analysis, Enhanced Vegetation Index (EVI) or other similar optical or multispectral analysis should be operated in accordance with all applicable FAA rules and regulations.
- Livestock Management: UAS may be used in support of management of livestock through proper animal husbandry, including such activities as herding,

searching for lost/missing livestock, headcounts, checking food/water/field conditions, etc. Use of UAS for livestock management should not rise to the level of harassment or abuse, inflict injury, or cause undue stress to animals.

Outdoorsman/Sporting Use

- IDNR should be instructed to review the Wildlife Code (520 ILCS 5/)³⁹ and the Fish and Aquatic Life Code (515 ILCS 5/)⁴⁰ to determine what language should be added or amended to appropriately address UAS.
 - IDNR should coordinate with other State agencies as appropriate to ensure any proposed additions or modification to existing statutes, the Illinois Administrative Code (JCAR), and/or departmental policies are in compliance with applicable Federal and State rules and regulations.
- Wildlife: UAS should be permitted to take photos, video, assist in wildlife counts or other similar research, etc., provided the activities are non-invasive and do not cause disruption to wildlife or their natural habitat.
 - UAS should not be used to harass, herd, injure, or otherwise harm wildlife.
- Hunting & Trapping: UAS should not aid hunters “in the take” of an animal for sporting purposes.
 - UAS should be permitted as a form of scouting, or in effect an aerial “trail cam,” provided a sufficient duration of time has passed between the UAS flight and the hunting activities. The Task Force recommends a minimum of 24 hours between aerial scouting and the active hunt to provide adequate safeguard against UAS being used during hunting activities.
 - UAS should not be used as an aide in searching for wounded/downed animals. Again, this restriction is to safeguard against UAS being actively used during hunting activities.
 - UAS should not be used to place or check traps.
- Fishing / Aquatic Life: UAS should not be used as a trolling platform or as a casting aid for fisherman.

³⁹ <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1729&ChapterID=43> (June 20, 2016)

⁴⁰ <http://www.ilga.gov/legislation/ilcs/ilcs5.asp?ActID=1728&ChapterID=42> (June 20, 2016)

- UAS should not be used to remotely deploy sonar-based remote fish finders, underwater cameras, or other devices that break the surface of the water that could assist in determining the location of fish or other aquatic life. UAS may assist in recreational fish finding, provided the UAS and any sensors or other protuberances remain clear of the water.
- Persons using UAS in association with sporting purposes regulated by IDNR, or other agencies, must follow all other applicable rules and regulations related to that activity. UAS should not be used as a method to circumvent existing rules and regulations.
- The above recommendations related to use of UAS for sporting purposes is intended to apply to private use, not necessarily official use by IDNR or other appropriate public agencies, as authorized, and in accordance with applicable FAA rules and regulations.

Intentional Interference, Damage or Destruction of a UAS

- An individual who willfully sets fire to, damages, destroys, disables, or wrecks a UAS may be in violation of Federal law according to 18 U.S. Code § 32 – *Destruction of Aircraft or Aircraft Facilities*.⁴¹
- Unless a UAS poses an imminent danger to the safety of persons or property, it should be illegal to interfere with, disable, or intentionally damage or destroy a UAS.
 - Subject to applicable FAA rules and regulations, this recommendation should not apply to the UAS operator who desires to intentionally damage or destroy his or her UAS.
 - Subject to applicable FAA rules and regulations, this recommendation should not apply to accidental or intentional damage or destruction caused in the course of a UAS race, tournament, demolition derby, or other similar activity where the UAS operator voluntarily flew with the knowledge and/or expectation that damage or destruction to the UAS may occur.

⁴¹ <https://www.gpo.gov/fdsys/pkg/USCODE-2011-title18/html/USCODE-2011-title18-partI-chap2-sec32.htm>
(June 20, 2016)

Weaponization

- UAS should not be used as a tool to assault others or commit battery. This common-sense recommendation is likely already captured under existing law.
- UAS should not be weaponized by attaching firearms, or other form of deadly weapon as described in Article 24 of the Criminal Code⁴² with the intent to use unlawfully against another.

Future State Oversight

- As Federal rules and regulations change and the capabilities and uses of UAS expand, there will be the need to reevaluate State-level UAS oversight.
- At the ultimate conclusion of the Task Force, it is recommended that a standing UAS Advisory Board be developed as a technical resource to provide advice to IDOT, and other State agencies as appropriate, regarding UAS oversight in Illinois.
 - The Task Force recommends the UAS Advisory Board be relatively limited in size (8-10 members or thereabout) and be comprised of a knowledgeable, yet diverse representation of UAS stakeholders.
 - For example, the type of appointees could include representatives from IDOT, ISP, the UAS manufacturing/distribution industry, commercial UAS operators, established UAS-specific organizations/associations (representing overall UAS industry and specifically Recreational/Hobby), retail/commerce industry, insurance industry, educational institutions (college/university), and an organization focused on the protection of civil rights.
 - It is recommended IDOT lead the initiative and develop the Advisory Board's framework and general administrative processes. The Advisory Board may be established internally by IDOT or by legislative action and executive appointment. This Advisory Board approach would be consistent with other IDOT-led advisory boards and committees, such as

⁴² <http://www.ilga.gov/legislation/ilcs/ilcs4.asp?ActID=1876&ChapterID=53&SeqStart=68200000&SeqEnd=71300000>
(June 20, 2016)

the Illinois Board of Aeronautical Advisors, the Air Service Commission I-FLY, the Illinois Freight Advisory Council, the Interagency Coordinating Committee on Transportation, and others.

5.0 Closing

Unmanned Aircraft Systems represent both an opportunity and obligation for the State of Illinois.

UAS have the potential to expand into nearly every facet of society in some capacity. The technology driving UAS and the capabilities of UAS platforms are growing and are expected to expand in the years ahead, so too are the applications UAS are utilized for. New ways of operating UAS in support of Commercial and Public business are being developed constantly, and Recreational/Hobby use of UAS has evolved and experienced an exponential growth in popularity. Even the word “drone” has become an integral part of today’s lexicon.

Overall, education is perhaps the most essential recommendation offered by the Task Force. This includes a comprehensive approach to educate UAS operators (Commercial, Public, and Recreational/Hobby), Local elected officials and policy makers, the aviation community, the general public, and other stakeholders that may be interested in or impacted by UAS in Illinois. Education and outreach is one of the most fundamental, yet often overlooked components to implementing sound policy and successfully achieving desired results.

The State of Illinois has a responsibility to ensure the safety and protect the rights of the public. The Task Force fully supports the need to address legitimate privacy and land rights concerns, and recommends care be taken to appropriately address these valid concerns without unduly restricting otherwise safe, and lawful UAS operation.

However well-intentioned, overly burdensome regulations that discourage or unnecessarily obstruct the otherwise safe and lawful use of UAS should be avoided. Facts, not perception, should drive the regulatory conversation. Officials should be aware of the prevalence of misinformation or misconceptions surrounding UAS as they develop public policy.

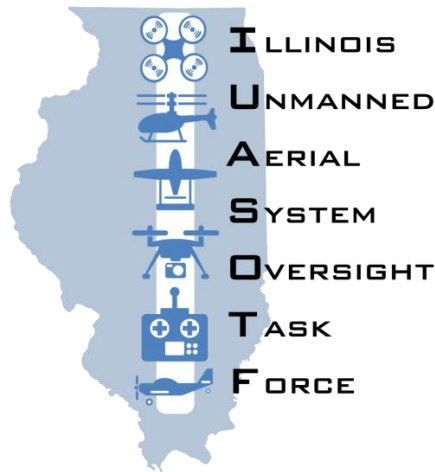
As UAS oversight at the State level is crafted and implemented legislatively and through changes to the Illinois Administrative Code (JCAR), policy makers must remain mindful of Federal rules and regulations. State-level oversight, and any permitted Local restrictions on UAS operations, must maintain full compliance with Federal law. Furthermore, State-level oversight should be structured in such a manner that allows for timely modification to adapt to future changes in Federal rules and regulations.

Illinois is well-positioned to become a UAS leader: Illinois is home to world-class businesses and corporations, multiple UAS manufacturers, a strong retail and distribution network, numerous UAS clubs/organizations, educational institutions globally recognized for their academic excellence and innovation, and has historically had a very strong aviation presence.

UAS can develop into an economic driver for the State – by enhancing employee efficiency/productivity, through retail sales revenues, and also by creating or sustaining jobs in UAS design, development, manufacturing, distribution, retail, and professional commercial operators.

Illinois would be wise to develop a forward-thinking regulatory environment that not only provides for the safe and lawful use of UAS – including the protection of privacy and property rights – but also encourages innovation, emphasizes education, facilitates commerce, promotes research, and may help to inspire the next generation of aviation enthusiasts.

Finally, the Illinois Unmanned Aerial System Oversight Task Force would like to express its gratitude to the Governor and General Assembly for their leadership in establishing this Task Force and willingness to solicit unfettered feedback from this diverse group of professionals. The Task Force is hopeful that the recommendations contained within this report provide sufficient input towards development of a comprehensive approach to UAS oversight in Illinois.



6.0 Appendices

6.1 Unmanned Aerial System Oversight Task Force Act (20 ILCS 5065/)

(20 ILCS 5065/1)

(Section scheduled to be repealed on September 1, 2016)

Sec. 1. Short title. This Act may be cited as the Unmanned Aerial System Oversight Task Force Act.

(Source: P.A. 99-392, eff. 8-18-15.)

(20 ILCS 5065/5)

(Section scheduled to be repealed on September 1, 2016)

Sec. 5. Purpose. The use of drones is becoming more common in everyday applications both commercially and privately. It is clear that increased drone use creates emerging conflicts and challenges to providing guidance into the safe operation of drones, while not infringing upon the constitutional rights of others. It is necessary to establish a task force to provide oversight and input in creating comprehensive laws and rules for the operation and use of drone technology within this State, subject to federal oversight and regulation.

(Source: P.A. 99-392, eff. 8-18-15.)

(20 ILCS 5065/10)

(Section scheduled to be repealed on September 1, 2016)

Sec. 10. Definitions. As used in this Act:

"Task Force" means the Unmanned Aerial System Oversight Task Force.

"Unmanned Aerial System" or "UAS" means an unmanned aerial vehicle or drone.

(Source: P.A. 99-392, eff. 8-18-15.)

(20 ILCS 5065/15)

(Section scheduled to be repealed on September 1, 2016)

Sec. 15. The Unmanned Aerial System Task Force.

(a) There is hereby created the Unmanned Aerial System Oversight Task Force to study and make recommendations for the operation, usage, and regulation of Unmanned Aerial Systems, commonly referred to as "drone" technology, within this State.

(b) Within 90 days after the effective date of this Act members of the Task Force shall be appointed by the Governor and shall consist of one member from each of the following agencies or interest groups:

(1) a member of the Division of Aeronautics of the Department of Transportation, nominated by the Secretary of Transportation;

(2) a member of the Department of State Police, nominated by the Director of State Police;

(3) a Conservation Police officer of the Department of Natural Resources, nominated by the Director of Natural Resources;

(4) a member of the Department of Agriculture, nominated by the Director of Agriculture;

(5) a member of the Department of Commerce and

Economic Opportunity, nominated by the Director of Commerce and Economic Opportunity;

- (6) a UAS technical commercial representative;
- (7) a UAS manufacturing industry representative;
- (8) a person nominated by the Attorney General;
- (9) a member of the Illinois Conservation Police Lodge, nominated by the president of the Lodge;
- (10) a member of a statewide sportsmen's federation, nominated by the president of the federation;
- (11) a member of a statewide agricultural association, nominated by the president of the association;
- (12) a member of a statewide commerce association, nominated by the president or executive director of the association;
- (13) a person nominated by an electric utility company serving retail customers in this State;
- (14) a member of the Illinois National Guard, nominated by the Adjutant General;
- (15) a member of a statewide retail association, nominated by the president of the association;
- (16) a member of a statewide manufacturing trade association, nominated by the president or chief executive officer of the association;
- (17) a member of a statewide property and casualty insurance association, nominated by the president or chief executive officer of the association;
- (18) a member of a statewide association representing real estate brokers licensed in this State, nominated by the president of the association;
- (19) a member of a statewide surveying association, nominated by the president of the association;
- (20) a law enforcement official from a municipality with a population of 2 million or more inhabitants, nominated by the mayor of the municipality;
- (21) a law enforcement official from a municipality with a population of less than 2 million inhabitants, nominated by a statewide police chiefs association; and
- (22) a member of a statewide freight railroad association, nominated by the president of the association.

(c) Nominations to the Task Force must be submitted to the Governor within 60 days of the effective date of this Act. The Governor shall make the appointments within 30 days after the close of nominations. The term of the appointment shall be until submission of the report of comprehensive recommendations under subsection (g) of this Section. The member from the Division of Aeronautics of the Department of Transportation shall chair the Task Force and serve as a liaison to the Governor and General Assembly. Meetings of the Task Force shall be held as necessary to complete the duties of the Task Force. Meetings of the Task Force shall be held in the central part of the State.

(d) The members of the Task Force shall receive no compensation for serving as members of the Task Force.

(e) The Task Force shall consider commercial and private uses of drones, landowner and privacy rights, as well as

general rules and regulations for safe operation of drones, and prepare comprehensive recommendations for the safe and lawful operation of UAS in this State.

(f) The Department of Transportation shall provide administrative support to the Task Force.

(g) The Task Force shall submit a report with recommendations to the Governor and General Assembly no later than July 1, 2016.

(Source: P.A. 99-392, eff. 8-18-15.)

(20 ILCS 5065/20)

(Section scheduled to be repealed on September 1, 2016)

Sec. 20. Expiration. This Act is repealed on September 1, 2016.

(Source: P.A. 99-392, eff. 8-18-15.)

(20 ILCS 5065/99)

(Section scheduled to be repealed on September 1, 2016)

Sec. 99. Effective date. This Act takes effect upon becoming law.

(Source: P.A. 99-392, eff. 8-18-15.)

6.2 Task Force Membership by Role

Task Force Role		Member
(1)	A member of the Division of Aeronautics of the Department of Transportation, nominated by the Secretary of Transportation	Steven M. Young
(2)	A member of the Department of State Police, nominated by the Director of State Police	Captain Matthew Davis
(3)	A Conservation Police officer of the Department of Natural Resources, nominated by the Director of Natural Resources	Eric M. Rollins
(4)	A member of the Department of Agriculture, nominated by the Director of Agriculture	Charles M. Cawley
(5)	A member of the Department of Commerce and Economic Opportunity, nominated by the Director of Commerce and Economic Opportunity	Christine Dudley/ Carrie Zethmayr
(6)	A UAS technical commercial representative	Gordon Cockburn
(7)	A UAS manufacturing industry representative	Ron Tremain
(8)	A person nominated by the Attorney General	Cameron P. Eugenis
(9)	A member of the Illinois Conservation Police Lodge, nominated by the president of the Lodge	Troy S. Williams
(10)	A member of a statewide sportsmen's federation, nominated by the president of the federation	Scotty Bryant
(11)	A member of a statewide agricultural association, nominated by the president of the association	Kevin Semlow
(12)	A member of a statewide commerce association nominated by the president or executive director of the association	Thomas J. Collins
(13)	A person nominated by an electric utility company serving retail customers in this State	Linda G. Rhodes, CSP
(14)	A member of the Illinois National Guard nominated by the Adjutant General	Clarence D. Pulcher III
(15)	A member of a statewide retail association, nominated by the president of the association	Alec Laird
(16)	A member of a statewide manufacturing trade association, nominated by the president or chief executive officer of the association;	Brian S. Young
(17)	A member of a statewide property and casualty insurance association, nominated by the president or chief executive officer of the association	Eric Vanasdale
(18)	A member of a statewide association representing real estate brokers licensed in this State, nominated by the president of the association	Scott Gerami
(19)	A member of a statewide surveying association, nominated by the president of the association	Timothy W. Burch
(20)	A law enforcement official from a municipality with a population of 2 million or more inhabitants, nominated by the mayor of the municipality	<i>(TBD)</i>
(21)	A law enforcement official from a municipality with a population of less than 2 million inhabitants, nominated by a statewide police chiefs association	Frank Kaminski
(22)	A member of a statewide freight railroad association, nominated by the president of the association	Joseph Ciaccio
(23)	Illinois Emergency Management Agency	Don Kauerauf

Additional Preparers

William M. Viste	Project Coordinator, Illinois Department of Transportation
Joseph D. Samudovsky	Flight Safety Coordinator, Illinois Department of Transportation

6.3 Task Force Member Bios (By Name)

Scotty Bryant

Task Force Role	(10) A member of a statewide sportsmen's federation, nominated by the president of the federation
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Company/Organization	IL Federation for Outdoor Resources
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Position	President
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Scotty is the president of the Illinois Federation for Outdoor Resources (IFOR), a 501 C (3) not-for-profit devoted to uniting all outdoor resource user groups and conservationists dedicated to preserving, restoring and developing the State's natural resources, and to protecting sportsmen's rights and recreational opportunities.

Timothy W. Burch, P.L.S.

Task Force Role	(19) A member of a statewide surveying association, nominated by the president of the association
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Company/Organization	Illinois Professional Land Surveyors Association
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Position	Government Affairs Committee - Chair
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Tim is the Director of Surveying at SPACECO, Inc. where his duties include establishing new markets and clients and mentoring of surveying staff. With over 30 years' experience, he has been a licensed Professional Land Surveyor in Illinois since 1997. A longtime member of the Illinois Professional Land Surveyor's Association, he has served all offices of the Northeast Chapter (2008-2012), Governmental Affairs Chair (2010-present), and was presented with the IPLSA Pat Patterson Surveyor of the Year award in 2013. He participated in the Illinois Boundary Law book project written by Jeff Lucas, organized by the Northeast Chapter, and published by the IPLSA for its members in 2013. Tim also has been a contributor to the Illinois Surveyor newsletter. He currently is the Secretary of the National Society of Professional Surveyors (NSPS) Board of Directors and previously represented IPLSA on the NSPS Board of Governors (2007-2015), as Secretary of the BOG (2014-2015), and on the NSPS Board of Directors (2014-present). Tim is previously served as the Chair for the NSPS Great Lakes Regional Council (GLRC) and also serves on the NSPS Railroad Monumentation Preservation Committee. He is has A.A.S. degree in Business Management from McHenry County College.

Charles M. Cawley

Task Force Role	(4) a member of the Department of Agriculture, nominated by the Director of Agriculture
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Company/Organization	Illinois Department of Agriculture
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Position	Division Manager for Agriculture Industry Regulation
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Division Manager for Agriculture Industry Regulation in the Illinois Department of Agriculture which encompasses three Bureaus: Warehouses, Ag Product Inspection and Weights and Measures. Chuck attended the University of Illinois and earned a Bachelor's Degree in Agricultural Economics and a Graduate Degree in Agronomy. He has over thirty years' experience in as an owner and operator of a grain and livestock farm near Rochelle, IL. He has been with the Department since February, 2015. He represents the Department on the Nutrient Research and Education Council and the Grain Handling Safety Coalition.

Joseph Ciaccio

Task Force Role	(22) A member of a statewide freight railroad association, nominated by the president of the association
Company/Organization	Illinois Railroad Association
Position	President

Mr. Ciaccio joined the Illinois Railroad Association in 1986 as Vice President and General Counsel. He was elected president of the Association in 1998. Prior to 1986, Mr. Ciaccio held positions as a staff attorney for the Speaker of the Illinois House of Representatives (from 1980 to 1983), and chief lobbyist for the Illinois Chamber of Commerce (from 1983 to 1986). Mr. Ciaccio is a graduate of Saint Louis University and Northern Illinois University College of Law, where he received his Juris Doctor Degree in 1979.

Gordon Cockburn

Task Force Role	(6) A UAS technical commercial representative
Company/Organization	Hobbico, Inc.
Position	New Business Development

“Gordy” joined Hobbico in October of 1993 as a proprietary marketing analyst. Hobbico, a manufacturer and distributor of hobby products, comprises Tower Hobbies, one of the world’s largest mail-order retailers of R/C (Radio Control) products, as well as Great Planes Model Distributors, a long-time supplier of R/C and general hobby products to online and brick-and-mortar retailers. In 2004, Gordon was promoted to Senior Marketing Manager, which was instrumental in the introduction and successful promotion of the company’s first drone projects in 2009. Since then, he has steered the company toward a leadership role in the drone segment of the R/C market through the ongoing development of business relationships with major Chinese manufacturers, formulating policies for safe, responsible drone operation in cooperation with the AMA (Academy of Model Aeronautics) and the expansion of the company’s offerings through proprietary its brands such as HeliMAX, Dromida, Estes, RISE, and through outside companies such as Ehang, Hubsan and Xiro.

Thomas J. Collins

Task Force Role	(12) A member of a statewide commerce association nominated by the president or executive director of the association
Company/Organization	Collins Engineers, Inc.
Position	President

Tom Collins is the president of Collins Engineers, Inc., a consulting engineering firm headquartered in Chicago with twelve offices throughout the U.S. He is Licensed Professional Engineer and Structural Engineer in Illinois and other states. His firm specializes in the inspection, design and construction management of transportation structures and waterfront facilities, and has used UAV’s for bridge inspection activities. Tom also has developed and teaches a number of Federal Highway Administration classes related to bridge inspection, maintenance and construction activities.

Captain Matthew Davis

Task Force Role	(2) A member of the Department of State Police, nominated by the Director of State Police
Company/Organization	Illinois State Police – Crime Scene Services Command
Position	Commander

Commander of the Illinois State Police (ISP), Crime Scene Services Command (CSSC). The CSSC provides forensic support services to law enforcement agencies throughout Illinois. These services include photography, forensic diagramming and animation, evidence processing and collection, shooting scene reconstruction, blood stain pattern analysis, and crime scene reconstruction. In May of 2015, the CSSC became the first law enforcement entity issued an operational Certificate of Authorization (COA) from the Federal Aviation Administration (FAA) to lawfully operate Unmanned Aircraft Systems (UAS) in Illinois. The ISP is just the second law enforcement agency in the county, next to the Michigan State Police, to be granted a state-wide operational COA. The CSSC's UAS missions primarily consist of crime scene and traffic crash scene aerial photography. Captain Davis began his career with the ISP in 1998. He earned baccalaureate degrees in anthropology and history from the University of Delaware, a master's degree in biological anthropology from Northern Illinois University, and a Juris Doctor from Saint Louis University School of Law. He is also a licensed attorney in Illinois.

Christine Dudley

Task Force Role	(5) A member of the Department of Commerce and Economic Opportunity, nominated by the Director of Commerce and Economic Opportunity
Company/Organization	Illinois Department of Commerce – Film Office
Position	Deputy Director

Christine Dudley joined the Illinois Department of Commerce as Deputy Director of the Office of Film in February 2015. As Deputy Director, Chris leads the team of industry experts to promote Illinois as a destination for world class film production and to provide location, housing, and tax credit support for film, television and commercial advertising productions throughout the State. Prior to joining the Department of Commerce, Chris worked as an independent consultant, providing strategic planning and tactical support to a wide variety of corporate and political clients, including public affairs; event planning; grassroots engagement; management, compliance, earned and paid media strategies. Chris also served in lead management roles throughout her career including Special Assistant to U.S. Secretary of Labor Lynn Martin in the Office of Congressional and Intergovernmental Affairs, Executive Director for the Illinois Republican Party, and Midwest Regional Political Director for the Republican National Committee. She also worked in management roles for Congressmen Fred Grandy, Illinois Comptroller Judy Baar Topinka, and State Senator Karen McConnaughay. Chris is an alumni of the television program *Beyond Our Control*, which received a Hugo Award from the Chicago International Film Festival. She also served as a spokesperson at events and on various shows, including television's *Chicago Tonight* and radio's *Beyond the Beltway*. Chris currently serves on Senator Mark Kirk's Women's Advisory Board, as Treasurer for Chicago Women in Government Relations, and as a member of Maggie's List. She also served on the Boards of Directors for the Illinois Arts Council, Shattered Globe Theatre, and the Government Assistance Program (GAP). In recognition of her dedication to preparing women for government and public policy positions, Chris received the Richard G. Lugar Excellence in Public Service Series National Coalition Iron Jawed Angel Award, and she was recognized amongst the Princeton Illinois' Freedom House Gallery of Hero and Heroines. Chris attended Indiana University and currently resides in Chicago, Illinois.

Cameron P. Eugenis

Task Force Role	(8) A person nominated by the Attorney General
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Company/Organization	Office of the Attorney General of Illinois
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Position	Chief of Investigations
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Chief of Investigations, for the Office of the Attorney General of Illinois, oversees all sworn members of the OAG. The Investigations Division is responsible for all matters requiring a sworn officer including ICAC (Internet Crimes Against Children) child pornography investigations. Mr. Eugenis attended WIU-Macomb and earned a bachelor's degree in Law Enforcement Administration becoming a police officer in 1986. He is a graduate of the 194th session of the Federal Bureau of Investigation National Academy in 1998 and the 290th class of Northwestern University's Center for Public Safety School of Police Staff and Command in 2010. Mr. Eugenis has over 20 years of police command experience and 21 years of SWAT experience with the Northern Illinois Police Alarm System Emergency Services Team (NIPAS EST) where he served in all positions including overall team commander representing over 67 communities and 2 million people from 2010-2014. Mr. Eugenis is the primary field liaison with Illinois Emergency Management Agency (IEMA) on behalf of the OAG. He sits on several committees and task forces.

Scott Gerami

Task Force Role	(18) A member of a statewide association representing real estate brokers licensed in this State, nominated by the president of the association
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Company/Organization	Re/Max Professionals Select
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Position	Broker
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Mr. Scott Gerami is a Real Estate Broker at Re/Max Professionals Select. Scott also represents all of the real estate brokers and managing brokers that are part of the Illinois Association of Realtors. Scott has been in the real estate industry for nearly thirty years, since 1987 when he was first licensed. He primarily specializes in innovative marketing technologies in assisting buyers and sellers. Scott has also won the first ever Technology Innovator Award for Re/Max of Northern Illinois in 2013 with the use of UAS within the real estate community. Scott has been building, developing and buying UAS's since late 2010.

Chief Frank Kaminski

Task Force Role	(21) A law enforcement official from a municipality with a population of less than 2 million inhabitants, nominated by a statewide police chiefs association
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Company/Organization	Illinois Association of Chiefs of Police
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Position	President
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Chief Frank Kaminski was installed to office as President of the Illinois Association of Chiefs of Police on June 13, 2015. He has been Chief of Police for the Park Ridge Police Department since 2009. He previously served the Evanston Police Department for 32 years, rising through the ranks from a beat officer. In addition to holding undergraduate and graduate degrees, he is a graduate of Northwestern University's Kellogg Graduate School of Management's executive management program and its Executive Institute for Chiefs of Police, as well as FBI training programs. Among his awards and honors is the Hixon Award for outstanding community service, the highest honor bestowed by Kiwanis International.

Donald G. Kauerauf

Task Force Role	Illinois Emergency Management Agency
Company/Organization	Illinois Emergency Management Agency
Position	Chair, Illinois Terrorism Task Force Chief, Bureau of Preparedness and Grants Administration

Donald Kauerauf is Chairman of the Illinois Terrorism Task Force (ITTF). In this position, he is responsible for providing strategic policy and support recommendations to the Director of Homeland Security in Illinois and to the Director of the Illinois Emergency Management Agency in the areas of statewide homeland security preparedness, prevention, protection, response and recovery capabilities. Mr. Kauerauf's responsibilities also include the management and administrative oversight of the U.S. Department of Homeland Security, Homeland Security Grant Program. Prior to his employment with the ITTF, Mr. Kauerauf served as Chief of the Division of Emergency Preparedness and Response for the Illinois Department of Public Health, where he was responsible for the coordination of response and recovery operations for bioterrorism and other statewide public health emergencies. Mr. Kauerauf began his state government career in 1987, serving as Assistant to the Chief of Operations for the Illinois Emergency Management Agency. In this capacity, he was directly responsible for various disaster response and preparedness activities. During "The Great Mississippi River Flooding of 1993," Mr. Kauerauf was responsible for the implementation of a potable water distribution system for citizens in Madison and Macoupin Counties in Illinois, who were without water service that summer. Mr. Kauerauf received his Bachelor of Science degree in Occupational Safety and Health from Illinois State University, Normal, Illinois.

Alec Laird

Task Force Role	(15) A member of a statewide retail association, nominated by the president of the association
Company/Organization	Illinois Retail Merchants Association
Position	Government Relations Manager

Mr. Laird serves as the Government Relations Manager for the Illinois Retail Merchants Association (IRMA). IRMA is one of the largest retail merchants associations in the United States and represents the diverse interests of its members throughout Illinois. Prior to joining IRMA, Mr. Laird served as Senior Legal Counsel to the Illinois House Minority Leader. In addition to his legislative and government relations experience, Mr. Laird practiced employment and labor law in the private sector. This experience included securing National Interest Waivers for individuals conducting research on the behalf of academic institutions and the United States Army, Navy and Airforce. Mr. Laird received a B.A. in Political Science from the University of Tennessee and a J.D. from the University of Memphis.

Clarence "CJ" D. Pulcher III

Task Force Role	(14) A member of the Illinois National Guard nominated by the Adjutant General
Company/Organization	Illinois Army National Guard – Joint Force Headquarters
Position	State Army Aviation Officer/Director of Army Aviation

Director of Army Aviation for the Illinois Army National Guard (ILARNG). Principle staff officer responsible to The Adjutant General (TAG) on all matters relating to Army Aviation. These matters include but are not limited to; proper use of Army aircraft, safety, airspace utilization, aircraft status/maintenance, training and standardization. Appointed as the ILARNG Air Traffic and Airspace Officer responsible to advise TAG on all matters relating to usage of the National Airspace System safely and within regulations (Army Regulations and Federal Aviation Regulations). Additionally responsible to provide oversight of the ILARNG's Unmanned Aircraft Systems program. Responsibilities include but are not limited to; training, education and regulatory compliance within the NAS. The ILARNG currently has in its inventory the RQ-7B Shadow (TUAS) and the RQ-11 Raven (SUAS).

Linda G. Rhodes, CSP

Task Force Role	(13) A person nominated by an electric utility company serving retail customers in this State
Company/Organization	Commonwealth Edison Co. (ComEd)
Position	Manager, Projects

Linda Rhodes is a Project Manager for a Strategic Initiatives group at Commonwealth Edison Company (ComEd). ComEd provides electric service to approximately 3.8 million customers across Northern Illinois, or 70 percent of the state's population. She leads a project that is driving the integration of unmanned aircraft systems (UASs) into ComEd operations. The UASs are used to capture aerial images of ComEd system condition, such as in hard-to-access areas, for increased employee and public safety and organizational efficiency. A certified safety professional and an industrial and systems engineer, Linda has served the safety, engineering and construction professions since 1987 in various industries including manufacturing, food processing and public transportation. Linda is an active member of the American Society of Safety Engineers and serves on advisory committees for The University of Illinois at Chicago Occupational and Environmental Health and Safety Education and Research Center (Illinois ERC) and the State of Illinois Carnival and Safety Board. Linda's involvement with charitable organizations includes ministries for the homeless in her neighborhood and mentoring for high school students with Exelon and United Way's Stay-in-School Program.

Sgt. Eric M. Rollins

Task Force Role	(3) A Conservation Police officer of the Department of Natural Resources, nominated by the Director of Natural Resources
Company/Organization	Illinois Department of Natural Resources – Office of Law Enforcement
Position	Support Services Sergeant

Legislative liaison and Conservation Police Support Services supervisor for the Department of Natural Resources Office of Law Enforcement, and chief emergency response manager for the Department of Natural Resources Joel D. Brunsvold building. Eric served four years in the U.S. military then earned a bachelor's degree in Elementary Education from Southern Illinois University at Carbondale, followed by a Master's degree in Political Science from the University of Illinois at Springfield. He served eight years as an Illinois Conservation Police Officer holding positions as a Defensive Tactics and firearms instructor and has served one year in his current position. Sgt. Rollins and his wife Elizabeth have been married for 10 years and live in Pleasant Plains, Illinois with their three children.

Kevin Semlow

Task Force Role	(11) A member of a statewide agricultural association, nominated by the president of the association
Company/Organization	Illinois Farm Bureau
Position	Director of State Legislation

Leads the State Legislative team of the Illinois Farm Bureau Governmental Affairs and Commodities Division. Works in planning, implementing and evaluating the state legislative program, state finance issues and state and local political campaigns. Serves as a legislative liaison with the General Assembly, State Executive Branch officials, state agencies, their respective staffs and provide assistance to county Farm Bureaus on matters pertaining to state legislative programs. Also serves as the Secretary for the Illinois Farm Bureau ACTIVATOR® (State) and Illinois Agriculture Association ACTIVATOR® (Federal) Political Involvement Funds. Provides assistance to county Farm Bureaus and candidates for elected office on matters pertaining to national, state and local political campaigns and the coordination of in-kind activities for state legislative candidates within the ACTIVATOR® program. A 1987 graduate of Illinois State University with a Bachelor of Science degree in Political Science. Prior to joining the Illinois Farm Bureau, he served as a legislative associate with the Illinois Municipal League. He also served as a research/appropriations analyst for the Illinois House of Representatives.

Ron Tremain

Task Force Role	(7) A UAS manufacturing industry representative
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Company/Organization	Insitu Inc.
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Position	Senior Business Development Executive
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Ron Tremain is the Senior Civil Business Development Executive for Insitu. He is responsible for business development in local, state, and federal markets with primary campaigns with the US Coast Guard, Customs and Border Protection, civil campaigns and land management efforts, maritime applications, and serves as an advisor Alaska UAS legislative initiatives and Washington Governors' UAV Task Force. He has 23 years of experience in Coast Guard aviation and is a recipient of the Distinguished Flying Cross, the Samuel L. Skinner Award for Heroism, three time recipient of the Lt. Richard R. Perchard award, as well as numerous Sikorsky and Aerospeciale awards for heroism. Mr. Tremain has been with Insitu since 2009 and has played an invaluable role in the growth of the Insitu maritime and domestic markets.

Eric Vanasdale

Task Force Role	(17) A member of a statewide property and casualty insurance association, nominated by the president or chief executive officer of the association
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Company/Organization	COUNTRY Financial
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Position	Sr. Loss Control Representative
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Eric Vanasdale is a Sr. Loss Control representative for COUNTRY Financial. In his role he is responsible for training field underwriting and loss control employees on various aspects of building construction and fire and life safety hazards. Eric also serves as a technical expert to COUNTRY's home, farm and commercial underwriting departments. He has an influence on underwriting guidelines while being a reference to underwriting research and development. Eric has 15 years of insurance loss control experience and has earned the Chartered Property Casualty Underwriter (CPCU), Associate in Risk Management (ARM), Associate in Reinsurance (Are) designations and completed the COUNTRY Financial Leadership Development Program Level 1. Eric is a current a member of and previous chairman of NAMIC's Loss Control Committee. He is also a member of the Grain Handling Safety Coalition, the Child Ag Safety Network, and is an advisor to the National Children's Center for Rural and Agricultural Health and Safety's Agritourism efforts. Eric has previously served as a member of a technical subcommittee for the Insurance Institute for Business and Home Safety (IBHS) and the National Tractor Safety Partnership. Eric has become a frequently requested speaker on underwriting and loss control topics at various insurance industry events including those hosted by the Illinois Association of Mutual Insurance Companies (IAMIC), the National Association of Mutual Insurance Companies (NAMIC) and the Central Illinois chapter of the Chartered Property Casualty Underwriter Society. Through involvement in these organizations as well as frequent speaking engagements and attendance at industry conferences, Eric has a strong understanding of the insurance industry and how companies integrate technology into their processes. This industry involvement has led to Eric receiving a Merit Award from the National Association of Mutual Insurance Companies recognizing exemplary efforts and professionalism in the insurance industry. Eric became interested in the use of Unmanned Aircraft Systems (UAS) as a way to improve COUNTRY's property inspection services. We believe UAS can give an inspector access to areas that were previously inaccessible, improve the safety of our employees by removing them from dangerous heights or environments, and can improve the customer experience by making the claims process quicker and more accurate. Eric has become the project lead on an enterprise wide project to research, test, and integrate UAS technology into our underwriting inspection and crop, property and catastrophic claims procedures as well as determine what insurance coverages to offer to COUNTRY Financial's customers.

Troy S. Williams

Task Force Role	(9) A member of the Illinois Conservation Police Lodge, nominated by the president of the Lodge
Company/Organization	Illinois Conservation Police Lodge
Position	Vice-President / Chief Steward
<p>Vice-President and Chief Steward of the Illinois Conservation Police Lodge, an organization representing Illinois' Conservation Police Officers. Troy attended SIU-Carbondale and earned a bachelor's degree in Forestry. He has been a Conservation Police Officer since 2007 and the CPL Vice-President and Chief Steward since 2013. He has prior experience as a police officer and a county 9-1-1 coordinator. In 2002, he earned his Private pilot license and has flown fixed wing, rotary wing and powered parachute aircraft. In addition, he has owned and flown unmanned aerial systems for over three years.</p>	

Brian S. Young

Task Force Role	(16) A member of a statewide manufacturing trade association, nominated by the president or chief executive officer of the association;
Company/Organization	ADM
Position	President, Crop Risk Services
<p>Currently serve as President for ADM Crop Risk Services. ADM Crop Risk Services currently writes crop insurance in 33 states. In this role Brian has responsibility for crop insurance operations as well as IT innovation and Ag technology integration. Brian holds a bachelor's degree in Horticulture from the University of Illinois and a Masters of Business Administration degree from Millikin University.</p>	

Steven M. Young

Task Force Role	(1) A member of the Division of Aeronautics of the Department of Transportation, nominated by the Secretary of Transportation
Company/Organization	Illinois Department of Transportation – Division of Aeronautics
Position	Interim Director
<p>Interim Director for the Department of Transportation, Division of Aeronautics which encompasses four bureaus: Air Operations, Airport Engineering, Aviation Education and Safety, and Administrative Services. The Division is responsible for oversight of 827 land facilities in Illinois, including airports, heliports, and restricted landing areas. Steve attended SIU-Carbondale and earned a bachelor's degree in Technical Careers (Aviation Systems). He has experience working in both flight and maintenance portions of the aviation industry for over thirty five years. He holds an Airline Transport Pilot Certificate with both multi-engine airplane and helicopter ratings with over 12,000 hours of aviation flight time, with extensive experience in corporate, 135 Charter, air ambulance and government flight operations. He holds an Airframe and Powerplant (A&P) Mechanic Certificate and an Inspection Authorization (IA) Maintenance Certificate and has worked with general aviation maintenance including FAR Part 145 Repair Station Management. Steve also serves as the primary aviation liaison to the Illinois State Incident Response Center.</p>	

Carrie Zethmayr

Task Force Role	(5) A member of the Department of Commerce and Economic Opportunity, nominated by the Director of Commerce and Economic Opportunity (non-voting)
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Company/Organization	Illinois Department of Commerce and Economic Opportunity
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Position	Northern Stateline Region Manager
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As Northern Stateline Region Manager for the State of Illinois Department of Commerce, Carrie manages the Northern Stateline region's business attraction, retention and expansion efforts. She serves as the State of Illinois liaison with the existing business community, global site selectors and companies considering first-time investment in the Northern Stateline region. Before joining the State of Illinois, Carrie served as Executive Director of Trade & Investment for the Rockford Area Economic Development Council where she spent seven years marketing the Rockford region and managing business attraction projects. Carrie directly engaged projects resulting in 3,000+ new regional jobs & \$300+ Million in capital investment. In addition, she managed Foreign Trade Zone #176 (FTZ), an important tool to manage international supply chains which saved companies up to \$2 Million annually. Other roles held include: Executive Director, I-39 Logistics Corridor Association; Director, IL Small Business Development Center International Trade Center; Chairperson, Go Global International Trade Conference Planning Committee; Staff Liaison, Rockford Area Aerospace Network. Carrie holds a Global MBA from Thunderbird School of Global Management, and a Bachelor's degree in Modern Languages and Asian Studies from Beloit College. In 2006 and 2007 she lived in Jinan, China where she studied Chinese language and culture. Carrie speaks both Mandarin and French.

6.4 Task Force Meeting Dates and Major Discussion Topics

Date	Topic(s)
January 14, 2016	<ul style="list-style-type: none">• Kick-Off / Task Force Overview
February 11, 2016	<ul style="list-style-type: none">• Commercial Use (Private Companies)• Public Use (Non-Law Enforcement)
March 3, 2016	<ul style="list-style-type: none">• Private Use (Recreational/Hobby)
April 7, 2016	<ul style="list-style-type: none">• Landowner Rights• Privacy Concerns• Public Use (Law Enforcement)
May 5, 2016	<ul style="list-style-type: none">• General Rules for Safe Operations
June 2, 2016	<ul style="list-style-type: none">• Recap: Review/Comment
June 23, 2016	<ul style="list-style-type: none">• Finalize/Approve Report

6.5 State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet

State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet

Federal Aviation Administration
Office of the Chief Counsel

December 17, 2015

BACKGROUND

Unmanned aircraft systems (UAS) are aircraft subject to regulation by the FAA to ensure safety of flight, and safety of people and property on the ground. States and local jurisdictions are increasingly exploring regulation of UAS or proceeding to enact legislation relating to UAS operations. In 2015, approximately 45 states have considered restrictions on UAS. In addition, public comments on the Federal Aviation Administration's (FAA) proposed rule, "Operation and Certification of Small Unmanned Aircraft Systems" (Docket No. FAA-2015-0150), expressed concern about the possible impact of state and local laws on UAS operations.

Incidents involving unauthorized and unsafe use of small, remote-controlled aircraft have risen dramatically. Pilot reports of interactions with suspected unmanned aircraft have increased from 238 sightings in all of 2014 to 780 through August of this year. During this past summer, the presence of multiple UAS in the vicinity of wild fires in the western U.S. prompted firefighters to ground their aircraft on several occasions.

This fact sheet is intended to provide basic information about the federal regulatory framework for use by states and localities when considering laws affecting UAS. State and local restrictions affecting UAS operations should be consistent with the extensive federal statutory and regulatory framework pertaining to control of the airspace, flight management and efficiency, air traffic control, aviation safety, navigational facilities, and the regulation of aircraft noise at its source.

Presented below are general principles of federal law as they relate to aviation safety, and examples of state and local laws that should be carefully considered prior to any legislative action to ensure that they are consistent with applicable federal safety regulations. The FAA's Office of the Chief Counsel is available for consultation on specific questions.

WHY THE FEDERAL FRAMEWORK

Congress has vested the FAA with authority to regulate the areas of airspace use, management and efficiency, air traffic control, safety, navigational facilities, and aircraft noise at its source. 49 U.S.C. §§ 40103, 44502, and 44701-44735. Congress has directed the FAA to "develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace." 49 U.S.C. § 40103(b)(1). Congress has further directed the FAA to "prescribe air traffic regulations on the flight of aircraft (including regulations on safe altitudes)" for navigating, protecting, and identifying aircraft; protecting individuals and property on the ground; using the navigable

airspace efficiently; and preventing collision between aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects. 49 U.S.C. § 40103(b)(2).

A consistent regulatory system for aircraft and use of airspace has the broader effect of ensuring the highest level of safety for all aviation operations. To ensure the maintenance of a safe and sound air transportation system and of navigable airspace free from inconsistent restrictions, FAA has regulatory authority over matters pertaining to aviation safety.

REGULATING UAS OPERATIONS

In § 333 of the FAA Modernization and Reform Act of 2012 (Public Law No. 112-95), Congress directed the Secretary to determine whether UAS operations posing the least amount of public risk and no threat to national security could safely be operated in the national airspace system (NAS) and if so, to establish requirements for the safe operation of these systems in the NAS.

On February 15, 2015, the FAA proposed a framework of regulations that would allow routine commercial use of certain small UAS in today's aviation system, while maintaining flexibility to accommodate future technological innovations. The FAA's Notice of Proposed Rulemaking offered safety rules for small UAS (under 55 pounds) conducting non-recreational or non-hobby operations. The proposed rule defines permissible hours of flight, line-of-sight observation, altitude, operator certification, optional use of visual observers, aircraft registration and marking, and operational limits.

Consistent with its statutory authority, the FAA is requiring Federal registration of UAS in order to operate a UAS. Registering UAS will help protect public safety in the air and on the ground, aid the FAA in the enforcement of safety-related requirements for the operation of UAS, and build a culture of accountability and responsibility among users operating in U.S. airspace. No state or local UAS registration law may relieve a UAS owner or operator from complying with the Federal UAS registration requirements. Because Federal registration is the exclusive means for registering UAS for purposes of operating an aircraft in navigable airspace, no state or local government may impose an additional registration requirement on the operation of UAS in navigable airspace without first obtaining FAA approval.

Substantial air safety issues are raised when state or local governments attempt to regulate the operation or flight of aircraft. If one or two municipalities enacted ordinances regulating UAS in the navigable airspace and a significant number of municipalities followed suit, fractionalized control of the navigable airspace could result. In turn, this 'patchwork quilt' of differing restrictions could severely limit the flexibility of FAA in controlling the airspace and flight patterns, and ensuring safety and an efficient air traffic flow. A navigable airspace free from inconsistent state and local restrictions is essential to the maintenance of a safe and sound air transportation system. See *Montalvo v. Spirit Airlines*, 508 F.3d 464 (9th Cir. 2007), and *French v. Pan Am Express, Inc.*, 869 F.2d 1 (1st Cir. 1989); see also *Arizona v. U.S.*, 567 U.S. ___, 132 S.Ct. 2492, 2502 (2012) ("Where Congress occupies an entire field . . . even complimentary state regulation is impermissible. Field preemption reflects a congressional decision to foreclose any

state regulation in the area, even if it is parallel to federal standards.”), and *Morales v. Trans World Airlines, Inc.*, 504 U.S. 374, 386-87 (1992).

EXAMPLES OF STATE AND LOCAL LAWS FOR WHICH CONSULTATION WITH THE FAA IS RECOMMENDED

- Operational UAS restrictions on flight altitude, flight paths; operational bans; any regulation of the navigable airspace. For example – a city ordinance banning anyone from operating UAS within the city limits, within the airspace of the city, or within certain distances of landmarks. Federal courts strictly scrutinize state and local regulation of overflight. *City of Burbank v. Lockheed Air Terminal*, 411 U.S. 624 (1973); *Skysign International, Inc. v. City and County of Honolulu*, 276 F.3d 1109, 1117 (9th Cir. 2002); *American Airlines v. Town of Hempstead*, 398 F.2d 369 (2d Cir. 1968); *American Airlines v. City of Audubon Park*, 407 F.2d 1306 (6th Cir. 1969).
- Mandating equipment or training for UAS related to aviation safety such as geo-fencing would likely be preempted. Courts have found that state regulation pertaining to mandatory training and equipment requirements related to aviation safety is not consistent with the federal regulatory framework. *Med-Trans Corp. v. Benton*, 581 F. Supp. 2d 721, 740 (E.D.N.C. 2008); *Air Evac FMS, Inc. v. Robinson*, 486 F. Supp. 2d 713, 722 (M.D. Tenn. 2007).

EXAMPLES OF STATE AND LOCAL LAWS WITHIN STATE AND LOCAL GOVERNMENT POLICE POWER

Laws traditionally related to state and local police power – including land use, zoning, privacy, trespass, and law enforcement operations – generally are not subject to federal regulation. *Skysign International, Inc. v. City and County of Honolulu*, 276 F.3d 1109, 1115 (9th Cir. 2002). Examples include:

- Requirement for police to obtain a warrant prior to using a UAS for surveillance.
- Specifying that UAS may not be used for voyeurism.
- Prohibitions on using UAS for hunting or fishing, or to interfere with or harass an individual who is hunting or fishing.
- Prohibitions on attaching firearms or similar weapons to UAS.

CONTACT INFORMATION FOR QUESTIONS

The FAA’s Office of the Chief Counsel is available to answer questions about the principles set forth in this fact sheet and to consult with you about the intersection of federal, state, and local regulation of aviation, generally, and UAS operations, specifically. You may contact the Office of Chief Counsel in Washington, D.C. or any of the following Regional Counsels:

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APPENDIX – LIST OF AUTHORITIES

Federal Statutes

- 49 U.S.C. §§ 40103, 44502, and 44701- 44735 (former Federal Aviation Act of 1958, as amended and recodified).
- FAA Modernization and Reform Act of 2012, Public Law No. 112-95 (Feb. 14, 2012), Subtitle B, “Unmanned Aircraft Systems.”

Federal Regulations

- Title 14 of the Code of Federal Regulations, Chapter 1.

The U.S. Supreme Court

- “Congress has recognized the national responsibility for regulating air commerce. Federal control is intensive and exclusive. Planes do not wander about in the sky like vagrant clouds. They move only by federal permission, subject to federal inspection, in the hands of federally certified personnel and under an intricate system of federal commands. The moment a ship taxis onto a runway it is caught up in an elaborate and detailed system of controls. It takes off only by instruction from the control tower, it travels on prescribed beams, it may be diverted from its intended landing, and it obeys signals and orders. Its privileges, rights, and protection, so far as transit is concerned, it owes to the Federal Government alone and not to any state government.” *Northwest Airlines v. State of Minnesota*, 322 U.S. 292, 303 (1944)(Jackson, R., concurring).
- “If we were to uphold the Burbank ordinance [which placed an 11 p.m. to 7 a.m. curfew on jet flights from the Burbank Airport] and a significant number of municipalities followed suit, it is obvious that fractionalized control of the timing of takeoffs and landings would severely limit the flexibility of FAA in controlling air traffic flow. The difficulties of scheduling flights to avoid congestion and the concomitant decrease in safety would be compounded.” *Burbank v. Lockheed Air Terminal Inc.*, 411 U.S. 624, 639 (1973).
- “The Federal Aviation Act requires a delicate balance between safety and efficiency, and the protection of persons on the ground ... The interdependence of these factors requires a uniform and exclusive system of federal regulation if the congressional objectives underlying the Federal Aviation Act are to be fulfilled.” *Burbank* at 638-639.
- “The paramount substantive concerns of Congress [in enacting the FAA Act] were to regulate federally all aspects of air safety ... and, once aircraft were in ‘flight,’ airspace management...” *Burbank* at 644 (Rehnquist, J. dissenting).

U.S. Courts of Appeals

- “Air traffic must be regulated at the national level. Without uniform equipment specifications, takeoff and landing rules, and safety standards, it would be impossible to operate a national air transportation system.” *Gustafson v. City of Lake Angeles*, 76 F.3d 778, 792-793 (6th Cir. 1996)(Jones, N., concurring).
- “The purpose, history, and language of the FAA [Act] lead us to conclude that Congress intended to have a single, uniform system for regulating aviation safety. The catalytic events leading to the enactment of the FAA [Act] helped generate this intent. The FAA [Act] was drafted in response to a series of fatal air crashes between civil and military aircraft operating under separate flight rules In discussing the impetus for the FAA [Act], the Supreme Court has also noted that regulating the aviation industry requires a delicate balance between safety and efficiency. It is precisely because of ‘the interdependence of these factors’ that Congress enacted ‘a uniform and exclusive system of federal regulation.’” *Montalvo v. Spirit Airlines*, 508 F.3d 464, 471 (9th Cir. 2007), citing *City of Burbank v. Lockheed Air Terminal Inc.*, 411 U.S. 624, 638-39 (1973).
- “[W]hen we look to the historical impetus for the FAA, its legislative history, and the language of the [FAA] Act, it is clear that Congress intended to invest the Administrator of the Federal Aviation Administration with the authority to enact exclusive air safety standards. Moreover, the Administrator has chosen to exercise this authority by issuing such pervasive regulations that we can infer a preemptive intent to displace all state law on the subject of air safety.” *Montalvo* at 472.
- “We similarly hold that federal law occupies the entire field of aviation safety. Congress’ intent to displace state law is implicit in the pervasiveness of the federal regulations, the dominance of the federal interest in this area, and the legislative goal of establishing a single, uniform system of control over air safety. This holding is fully consistent with our decision in *Skysign International, Inc. v. Honolulu*, 276 F.3d 1109 (9th Cir. 2002), where we considered whether federal law preempted state regulation of aerial advertising that was distracting and potentially dangerous to persons on the ground. In upholding the state regulations, we held that federal law has not ‘preempt[ed] altogether any state regulation purporting to reach into the navigable airspace.’ *Skysign* at 1116. While Congress may not have acted to occupy exclusively all of air commerce, it has clearly indicated its intent to be the sole regulator of aviation safety. The FAA, together with federal air safety regulations, establish complete and thorough safety standards for interstate and international air transportation that are not subject to supplementation by, or variation among, states.” *Montalvo* at 473-474.
- “[W]e remark the Supreme Court’s reasoning regarding the need for uniformity [concerning] the regulation of aviation noise, see *City of Burbank v. Lockheed Air Terminal*, 411 U.S. 624 (1973), and suggest that the same rationale applies here. In *Burbank*, the Court struck down a municipal anti-noise ordinance placing a curfew on jet flights from a regional airport. Citing the ‘pervasive nature of the scheme of federal

regulation,' the majority ruled that aircraft noise was wholly subject to federal hegemony, thereby preempting state or local enactments in the field. In our view, the pervasiveness of the federal web is as apparent in the matter of pilot qualification as in the matter of aircraft noise. If we upheld the Rhode Island statute as applied to airline pilots, 'and a significant number of [states] followed suit, it is obvious that fractionalized control ... would severely limit the flexibility of the F.A.A.' [citing *Burbank*] Moreover, a patchwork of state laws in this airspace, some in conflict with each other, would create a crazyquilt effect ... The regulation of interstate flight-and flyers-must of necessity be monolithic. Its very nature permits no other conclusion. In the area of pilot fitness as in the area of aviation noise, the [FAA] Act as we read it 'leave[s] no room for ... local controls.' [citing *Burbank*]. *French v. Pan Am Express, Inc.*, 869 F.2d 1, 6 (1st Cir. 1989).

6.6 Sample Signage Restricting Drone Use



6.7 Sample “Drone Zone” Signage

